

*FACHS MEASURES FOR CRIMINOLOGY ARTICLE.

*VARIABLE CREATION.

*CREATES prisonviolenceDv

generate prisonviolenceDV = PRVQ1 + PRVQ2 + PRVQ3 + PRVQ4

*CREATES STREETCODE.

generate streetcodeIV = SCBv1 + SCBv2 + SCBv3 + SCBv4 + SCBv5 + SCBv6 + SCBv7

*CREATES CONCENTRATED DISADVANTAGE. A CONSTANT OF 10 WAS ADDED TO REMOVE Negative values.

generate ndisavantaged = CDISADVANTw1 + 10

*CREATES THE Family Structure.

recode FamStruG4E5 (1=1) (2=0), gen (Fam_Structure)

The missing values were replaced with their mean from the column.

The mdesc command shows the number & percent of missing data for a variable

. mdesc Fam_Structure

Variable	Missing	Total	Percent Missing
Fam_Struct~e	6	219	2.74

There were 2.74% of cases missing on the Family Structure variable.

. tabstat Fam_Structure, statistics(mean sd min max count) columns(statistics)

variable	mean	sd	min	max	N
Fam_Struct~e	.4225352	.4951264	0	1	213

*TO MEAN SUBSTITUTE THE FOLLOWING WAS DONE.

replace Fam_Structure = .4225352 if missing(Fam_Structure)

*CREATES Family SocioEconomic Status.

generate FamSES = FamSESQ14

*CREATES THE MALES MEASURE.

recode GENDQ9 (1=1) (2=0), gen(MALES)

The missing values were replaced with their mean from the column.

The mdesc command shows the number & percent of missing data for a variable

. mdesc MALES

Variable	Missing	Total	Percent Missing
MALES	11	219	5.02

There were 5% of cases missing on the Males variable.

. tabstat MALES, statistics(mean sd min max count) columns(statistics)

variable	mean	sd	min	max	N
MALES	.5336538	.5000697	0	1	208

*TO MEAN SUBSTITUTE THE FOLLOWING WAS DONE.

replace MALES = .5336538 if missing(MALES)

*CREATES PRIOR VIOLENT OFFENDING.

recode OFFENDQ1 (1=0) (2/5 = 1), gen (pviolentoffend)

*CREATES URBAN MEASURE.

recode URBANL10a (1=0) (2=1), gen (urbanL)

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*CREATES SOUTHERN MEASURE.
recode SOUTHERNL10b (1=0) (2=1), gen(southL)

*CREATES VIOLENT CONVICTIONS.
recode VIOCONVICTQ52a (0=0) (1=1), gen(violentconvi)

*CREATES PROPERTY CONVICTIONS.
recode PROPCONVICTQ52b (0=0) (2=1), gen(propconvict)

*CREATES DRUGS CONVICTIONS.
recode DRUGSCONVICTQ52c (0=0) (4=1), gen(Drugs)

*CREATES SUPERVISION VIOLATIONS MEASURE.
recode PRPVCNVICTQ52d (0=0) (7=1), gen (Super_convicti)

*The missing values were replaced with their mean from the column.*
*The mdesc command shows the number & percent of missing data for a variable*
. mdesc Super_convicti
  Variable |      Missing      Total      Percent Missing
-----+-----
 Super_conv~i |          6         219          2.74
-----+-----

*There were 2.74% of cases missing on the Supervision Violations variable.*
. tabstat Super_convicti, statistics(mean sd min max count) columns(statistics)
  variable |      mean      sd      min      max      N
-----+-----
 Super_conv~i | .2394366  .4277449         0         1      213
-----+-----

*TO MEAN SUBSTITUTE THE FOLLOWING WAS DONE.
replace Super_convicti = .2394366 if missing(Super_convicti)

*CREATES THE OTHER CONVICTION MEASURE.
recode OTHERCONVICT52e (0=0) (6=1), gen(other_convict)

*CREATES MONTHS INCARCERATED MEASURE.
generate months_incar1 = MTHSJLPRQ89
*The missing values were replaced with their mean from the column.*
*The mdesc command shows the number & percent of missing data for a variable*
. mdesc months_incar1
  Variable |      Missing      Total      Percent Missing
-----+-----
 months_inc~1 |          7         219          3.20
-----+-----

*There were 3.2% of cases missing on the Months Incarcerated variable.*
. tabstat months_incar1, statistics(mean sd min max count) columns(statistics)
  variable |      mean      sd      min      max      N
-----+-----
 months_inc~1 | 7.688679  5.350047         1         18      212
-----+-----

*TO MEAN SUBSTITUTE THE FOLLOWING WAS DONE.
replace months_incar1 = 7.688679 if missing(months_incar1)

*CREATES PRIOR INCARCERTAION MEASURE.
recode JDETENTIONQ40c (1=0) (2=1), gen(pincarcerations)

*CREATES LACK OF EDUCATION TRAINING.
generate Lackeducatpart = EDUADVQ1a + EDUVOCQ1b

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*CREATES LACK OF RELIGION.
generate Lackreligion = RELIGIONQ1

*CREATES LACK OF FAMILY SUPPORT MEASURE.
generate LackFamSup = FAMVISTQ1a + FAMPHONQ1b + FAMLETTRQ1c

*CREATES DISCIPLINARY MEASURE.
recode DISCIPLIQ16 (2=0) (1=1), gen (Disciplinary)

*CREATES GANG MEASURE.
recode GANGQ18 (1=1) (2=0), gen(Gang)

RUNNING DESCRIPTIVE STATISTICS IN TABLE 1

tabstat prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES
pviolentoffend urbanL southL violentconvi propconvict Drugs Super_convicti other_convict
months_incarl pincarcerations Lackeducatpart Lackreligion LackFamSup Disciplinary Gang,
statistics(mean sd min max count) columns(statistics) format(%9.3f)

variable	mean	sd	min	max	N
prisonviol~V	2.132	3.466	0.000	12.000	219.000
streetcodeIV	18.562	3.789	7.000	28.000	219.000
ndisavanta~d	17.919	4.482	1.011	25.624	219.000
FamSES	13.753	3.934	0.000	24.000	219.000
Fam_Struct~e	0.423	0.488	0.000	1.000	219.000
MALES	0.534	0.487	0.000	1.000	219.000
pviolentof~d	0.338	0.474	0.000	1.000	219.000
urbanL	0.603	0.490	0.000	1.000	219.000
southL	0.443	0.498	0.000	1.000	219.000
violentconvi	0.068	0.253	0.000	1.000	219.000
propconvict	0.301	0.460	0.000	1.000	219.000
Drugs	0.251	0.435	0.000	1.000	219.000
Super_conv~i	0.239	0.422	0.000	1.000	219.000
other_conv~t	0.137	0.345	0.000	1.000	219.000
months_inc~l	7.689	5.263	1.000	18.000	219.000
pincarcera~s	0.283	0.452	0.000	1.000	219.000
Lackeducat~t	5.521	1.551	2.000	8.000	219.000
Lackreligion	4.708	1.537	1.000	6.000	219.000
LackFamSup	6.854	2.654	3.000	12.000	219.000
Disciplinary	0.192	0.395	0.000	1.000	219.000
Gang	0.187	0.391	0.000	1.000	219.000

*MULTIVARIATE ANALYSES - NEGATIVE BINOMIAL REGRESSIONS.

In Models 1-4 of Table 2, there are two models estimated. The first model produces the b`s. The second model produces the incident rate ratio (irr) which is equivalent to the Exp(B) in the for negative binominal models.

*TABLE 2 - MODEL 1 - BASELINE MODEL.

nbreg prisonviolenceDV streetcodeIV, dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -569.20753

Iteration 1: log likelihood = -569.20753

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958

Iteration 1: log likelihood = -389.17167

Iteration 2: log likelihood = -386.86183

Iteration 3: log likelihood = -386.85755

Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -376.07548

Iteration 1: log likelihood = -373.64248

Iteration 2: log likelihood = -373.31253

Iteration 3: log likelihood = -373.31157

Iteration 4: log likelihood = -373.31157

Negative binomial regression		Number of obs	=	219
		LR chi2(1)	=	27.09
Dispersion = mean		Prob > chi2	=	0.0000
Log likelihood = -373.31157		Pseudo R2	=	0.0350

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.189	0.036	5.22	0.000	0.118	0.260
_cons	-2.995	0.700	-4.28	0.000	-4.368	-1.623

/lnalpha	1.077	0.159			0.765	1.389

alpha	2.936	0.467			2.150	4.009

LR test of alpha=0: chibar2(01) = 391.79 Prob >= chibar2 = 0.000

*TABLE 2 - MODEL 1 - BASELINE MODEL (IRR).

nbreg prisonviolenceDV streetcodeIV, dispersion(mean) irr cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -569.20753

Iteration 1: log likelihood = -569.20753

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958

Iteration 1: log likelihood = -389.17167

Iteration 2: log likelihood = -386.86183

Iteration 3: log likelihood = -386.85755

Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -376.07548

Iteration 1: log likelihood = -373.64248

Iteration 2: log likelihood = -373.31253

Iteration 3: log likelihood = -373.31157

Iteration 4: log likelihood = -373.31157

Negative binomial regression

Number of obs = 219

LR chi2(1) = 27.09

Prob > chi2 = 0.0000

Pseudo R2 = 0.0350

Dispersion = mean

Log likelihood = -373.31157

prisonviolenceDV	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	1.208	0.044	5.22	0.000	1.125	1.297
_cons	0.050	0.035	-4.28	0.000	0.013	0.197
/lnalpha	1.077	0.159			0.765	1.389
alpha	2.936	0.467			2.150	4.009

Note: Estimates are transformed only in the first equation.

Note: _cons estimates baseline incidence rate.

LR test of alpha=0: chibar2(01) = 391.79

Prob >= chibar2 = 0.000

*TABLE 2 - MODEL 2

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES
 pviolentoffend urbanL southL, dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -425.71654
 Iteration 1: log likelihood = -425.54894
 Iteration 2: log likelihood = -425.54887
 Iteration 3: log likelihood = -425.54887

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -365.09704
 Iteration 1: log likelihood = -346.07913
 Iteration 2: log likelihood = -344.19335
 Iteration 3: log likelihood = -344.18191
 Iteration 4: log likelihood = -344.1819

Negative binomial regression	Number of obs	=	219
	LR chi2(8)	=	85.35
Dispersion = mean	Prob > chi2	=	0.0000
Log likelihood = -344.1819	Pseudo R2	=	0.1103

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.150	0.031	4.83	0.000	0.089	0.211
ndisavantaged	0.163	0.029	5.65	0.000	0.106	0.220
FamSES	-0.008	0.032	-0.26	0.793	-0.072	0.055
Fam_Structure	0.330	0.237	1.39	0.163	-0.134	0.795
MALES	0.743	0.264	2.82	0.005	0.226	1.259
pviolentoffend	0.648	0.225	2.88	0.004	0.207	1.088
urbanL	-0.325	0.227	-1.43	0.152	-0.769	0.120
southL	0.100	0.227	0.44	0.660	-0.345	0.545
_cons	-6.129	0.974	-6.29	0.000	-8.037	-4.220
/lnalpha	0.434	0.198			0.047	0.822
alpha	1.544	0.305			1.048	2.275

LR test of alpha=0: chibar2(01) = 162.73 Prob >= chibar2 = 0.000

*TABLE 2 - MODEL 2 (IRR)

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES
 pviolentoffend urbanL southL, dispersion(mean) irr cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -425.71654
 Iteration 1: log likelihood = -425.54894
 Iteration 2: log likelihood = -425.54887
 Iteration 3: log likelihood = -425.54887

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -365.09704
 Iteration 1: log likelihood = -346.07913
 Iteration 2: log likelihood = -344.19335
 Iteration 3: log likelihood = -344.18191
 Iteration 4: log likelihood = -344.1819

Negative binomial regression	Number of obs	=	219
	LR chi2(8)	=	85.35
Dispersion = mean	Prob > chi2	=	0.0000
Log likelihood = -344.1819	Pseudo R2	=	0.1103

prisonviolenceDV	IRR	Std. Err.	z	P> z	[95% Conf. Interval]
streetcodeIV	1.162	0.036	4.83	0.000	1.093 1.236
ndisavantaged	1.177	0.034	5.65	0.000	1.112 1.246
FamSES	0.992	0.032	-0.26	0.793	0.931 1.056
Fam_Structure	1.392	0.330	1.39	0.163	0.874 2.215
MALES	2.102	0.554	2.82	0.005	1.254 3.523
pviolentoffend	1.911	0.430	2.88	0.004	1.230 2.969
urbanL	0.723	0.164	-1.43	0.152	0.463 1.128
southL	1.105	0.251	0.44	0.660	0.708 1.724
_cons	0.002	0.002	-6.29	0.000	0.000 0.015
/lnalpha	0.434	0.198			0.047 0.822
alpha	1.544	0.305			1.048 2.275

Note: Estimates are transformed only in the first equation.

Note: _cons estimates baseline incidence rate.

LR test of alpha=0: chibar2(01) = 162.73 Prob >= chibar2 = 0.000

*TABLE 2 - MODEL 3.

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES
 pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict
 months_incarl pincarcerations, dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -399.30547
 Iteration 1: log likelihood = -383.86801
 Iteration 2: log likelihood = -383.83168
 Iteration 3: log likelihood = -383.83167

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -361.59092
 Iteration 1: log likelihood = -352.30273
 Iteration 2: log likelihood = -339.75483
 Iteration 3: log likelihood = -332.33728
 Iteration 4: log likelihood = -331.31292
 Iteration 5: log likelihood = -331.28556
 Iteration 6: log likelihood = -331.28555

Negative binomial regression		Number of obs	=	219
		LR chi2(14)	=	111.14
Dispersion = mean		Prob > chi2	=	0.0000
Log likelihood = -331.28555		Pseudo R2	=	0.1436

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.132	0.030	4.36	0.000	0.073	0.191
ndisavantaged	0.133	0.029	4.57	0.000	0.076	0.190
FamSES	-0.014	0.030	-0.49	0.625	-0.072	0.043
Fam_Structure	0.281	0.231	1.22	0.222	-0.171	0.734
MALES	0.638	0.248	2.58	0.010	0.153	1.124
pviolentoffend	0.524	0.212	2.47	0.013	0.108	0.939
urbanL	-0.211	0.215	-0.98	0.327	-0.632	0.211
southL	0.116	0.224	0.52	0.605	-0.324	0.556
violentconvi	0.764	0.341	2.24	0.025	0.095	1.432
Drugs	0.295	0.276	1.07	0.284	-0.245	0.835
Super_convicti	-0.150	0.254	-0.59	0.555	-0.648	0.348
other_convict	-0.568	0.347	-1.64	0.102	-1.249	0.113
months_incarl	0.067	0.023	2.85	0.004	0.021	0.113
pincarcerations	0.608	0.232	2.62	0.009	0.152	1.063
_cons	-5.926	0.919	-6.45	0.000	-7.728	-4.124
/lnalpha	0.107	0.225			-0.335	0.549
alpha	1.113	0.251			0.716	1.731

LR test of alpha=0: chibar2(01) = 105.09 Prob >= chibar2 = 0.000

*TABLE 2 - MODEL 3 (IRR)

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES
 pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict
 months_incarl pincarcerations, dispersion(mean) irr cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -399.30547
 Iteration 1: log likelihood = -383.86801
 Iteration 2: log likelihood = -383.83168
 Iteration 3: log likelihood = -383.83167

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -361.59092
 Iteration 1: log likelihood = -352.30273
 Iteration 2: log likelihood = -339.75483
 Iteration 3: log likelihood = -332.33728
 Iteration 4: log likelihood = -331.31292
 Iteration 5: log likelihood = -331.28556
 Iteration 6: log likelihood = -331.28555

Negative binomial regression		Number of obs	=	219
		LR chi2(14)	=	111.14
Dispersion = mean		Prob > chi2	=	0.0000
Log likelihood = -331.28555		Pseudo R2	=	0.1436

prisonviolenceDV	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	1.141	0.034	4.36	0.000	1.075	1.210
ndisavantaged	1.143	0.033	4.57	0.000	1.079	1.210
FamSES	0.986	0.029	-0.49	0.625	0.930	1.044
Fam_Structure	1.325	0.306	1.22	0.222	0.843	2.083
MALES	1.893	0.469	2.58	0.010	1.165	3.076
pviolentoffend	1.688	0.358	2.47	0.013	1.114	2.558
urbanL	0.810	0.174	-0.98	0.327	0.531	1.234
southL	1.123	0.252	0.52	0.605	0.723	1.744
violentconvi	2.146	0.731	2.24	0.025	1.100	4.185
Drugs	1.343	0.370	1.07	0.284	0.783	2.305
Super_convicti	0.861	0.219	-0.59	0.555	0.523	1.416
other_convict	0.566	0.197	-1.64	0.102	0.287	1.119
months_incarl	1.069	0.025	2.85	0.004	1.021	1.119
pincarcerations	1.836	0.426	2.62	0.009	1.165	2.894
_cons	0.003	0.002	-6.45	0.000	0.000	0.016
/lnalpha	0.107	0.225			-0.335	0.549
alpha	1.113	0.251			0.716	1.731

Note: Estimates are transformed only in the first equation.

Note: _cons estimates baseline incidence rate.

LR test of alpha=0: chibar2(01) = 105.09 Prob >= chibar2 = 0.000

*TABLE 2 - MODEL 4.

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES
 pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict
 months_incarl pincarcerations Lackeducatpart Lackreligion LackFamSup Disciplinary Gang,
 dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -378.40402
 Iteration 1: log likelihood = -354.30958
 Iteration 2: log likelihood = -354.02289
 Iteration 3: log likelihood = -354.02246
 Iteration 4: log likelihood = -354.02246

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -358.18601 (not concave)
 Iteration 1: log likelihood = -331.3611
 Iteration 2: log likelihood = -310.69875
 Iteration 3: log likelihood = -310.20179
 Iteration 4: log likelihood = -310.19813
 Iteration 5: log likelihood = -310.19813

Negative binomial regression	Number of obs	=	219
	LR chi2(19)	=	153.32
Dispersion = mean	Prob > chi2	=	0.0000
Log likelihood = -310.19813	Pseudo R2	=	0.1982

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.127	0.029	4.37	0.000	0.070	0.184
ndisavantaged	0.107	0.028	3.82	0.000	0.052	0.163
FamSES	0.022	0.029	0.75	0.454	-0.035	0.079
Fam_Structure	0.303	0.226	1.34	0.180	-0.140	0.747
MALES	0.580	0.233	2.49	0.013	0.124	1.036
pviolentoffend	0.711	0.211	3.36	0.001	0.297	1.125
urbanL	-0.348	0.208	-1.67	0.095	-0.757	0.060
southL	-0.082	0.217	-0.38	0.705	-0.508	0.344
violentconvi	0.655	0.316	2.07	0.038	0.036	1.274
Drugs	0.142	0.258	0.55	0.582	-0.364	0.648
Super_convicti	-0.264	0.257	-1.03	0.303	-0.768	0.239
other_convict	-0.283	0.347	-0.81	0.415	-0.962	0.397
months_incarl	0.070	0.025	2.81	0.005	0.021	0.119
pincarcerations	0.530	0.224	2.37	0.018	0.091	0.968
Lackeducatpart	-0.089	0.058	-1.53	0.126	-0.202	0.025
Lackreligion	0.086	0.077	1.12	0.264	-0.064	0.236
LackFamSup	0.089	0.044	2.04	0.041	0.004	0.174
Disciplinary	0.613	0.253	2.43	0.015	0.118	1.109
Gang	1.434	0.254	5.65	0.000	0.937	1.932
_cons	-6.801	1.115	-6.10	0.000	-8.986	-4.617
/lnalpha	-0.217	0.236			-0.680	0.246
alpha	0.805	0.190			0.507	1.279

LR test of alpha=0: chibar2(01) = 87.65 Prob >= chibar2 = 0.000

*TABLE 2 - MODEL 4 (IRR).

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict months_incar1 pincarcerations Lackeducatpart Lackreligion LackFamSup Disciplinary Gang, dispersion(mean) irr cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -378.40402
 Iteration 1: log likelihood = -354.30958
 Iteration 2: log likelihood = -354.02289
 Iteration 3: log likelihood = -354.02246
 Iteration 4: log likelihood = -354.02246

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -358.18601 (not concave)
 Iteration 1: log likelihood = -331.3611
 Iteration 2: log likelihood = -310.69875
 Iteration 3: log likelihood = -310.20179
 Iteration 4: log likelihood = -310.19813
 Iteration 5: log likelihood = -310.19813

Negative binomial regression	Number of obs	=	219
	LR chi2(19)	=	153.32
Dispersion = mean	Prob > chi2	=	0.0000
Log likelihood = -310.19813	Pseudo R2	=	0.1982

prisonviolenceDV	IRR	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	1.135	0.033	4.37	0.000	1.072	1.202
ndisavantaged	1.113	0.031	3.82	0.000	1.054	1.176
FamSES	1.022	0.030	0.75	0.454	0.965	1.082
Fam_Structure	1.354	0.306	1.34	0.180	0.869	2.110
MALES	1.786	0.416	2.49	0.013	1.131	2.819
pviolentoffend	2.036	0.430	3.36	0.001	1.346	3.080
urbanL	0.706	0.147	-1.67	0.095	0.469	1.062
southL	0.921	0.200	-0.38	0.705	0.602	1.410
violentconvi	1.925	0.608	2.07	0.038	1.036	3.575
Drugs	1.153	0.297	0.55	0.582	0.695	1.911
Super_convicti	0.768	0.197	-1.03	0.303	0.464	1.270
other_convict	0.754	0.261	-0.81	0.415	0.382	1.488
months_incar1	1.073	0.027	2.81	0.005	1.022	1.127
pincarcerations	1.698	0.380	2.37	0.018	1.096	2.633
Lackeducatpart	0.915	0.053	-1.53	0.126	0.817	1.025
Lackreligion	1.089	0.083	1.12	0.264	0.938	1.266
LackFamSup	1.093	0.048	2.04	0.041	1.004	1.191
Disciplinary	1.846	0.467	2.43	0.015	1.125	3.030
Gang	4.197	1.065	5.65	0.000	2.552	6.901
_cons	0.001	0.001	-6.10	0.000	0.000	0.010
/lnalpha	-0.217	0.236			-0.680	0.246
alpha	0.805	0.190			0.507	1.279

Note: Estimates are transformed only in the first equation.

Note: _cons estimates baseline incidence rate.

LR test of alpha=0: chibar2(01) = 87.65

Prob >= chibar2 = 0.000

*ESTIMATION OF INTERACTION EFFECTS.

/////The interaction measures were created with residuals from the main effects. Utilizing the residuals reduces the correlation between component variables, thus mitigating multicollinearity. Additionally, using the residuals ensures that the interaction term reflects the true relationship between the component variables, free from confounding that often results from shared correlations with other predictors.////////

*CREATING INTERACTION TERMS UTILIZING RESIDUALS.

*CREATING RESIDUAL FOR STREETCODE.

```
regress streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations Lackeducatpart Lackreligion LackFamSup Disciplinary Gang, cformat(%9.3f)
```

*This formula predicts the residual measure for streetcode that will be utilized in the interaction.

```
predict residualsStreetCodeO, r
*****
```

*CREATING LACK OF EDUCATIONAL TRAINING RESIDUAL.

```
regress Lackeducatpart streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations Lackreligion LackFamSup Disciplinary Gang, cformat(%9.3f)
```

*This formula predicts the residual measure for Lack of Education Training that will be utilized in the interaction.

```
predict residualsLackEduO, r
*****
```

*CREATING LACK OF RELIGION RESIDUAL.

```
regress Lackreligion streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations Lackeducatpart LackFamSup Disciplinary Gang, cformat(%9.3f)
```

*This formula predicts the residual measure for Religion that will be utilized in the interaction.

```
predict residualsLackreligO, r
*****
```

* CREATING LACK OF FAMILY SUPPORT RESIDUAL.

```
regress LackFamSup streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations Lackeducatpart Lackreligion Disciplinary Gang, cformat(%9.3f)
```

*This formula predicts the residual measure for Lack of Family Support that will be utilized in the interaction.

```
predict residualsLackfamiO, r
*****
```

```
*CREATING DISCIPLINARY RESIDUAL.
logistic Disciplinary streetcodeIV ndisavantaged FamSES Fam_Structure MALES
pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict
months_incarl pincarcerations Lackeducatpart Lackreligion LackFamSup Gang, cformat(%9.3f)
```

*This formula predicts the residual measure for Discipline that will be utilized in the interaction.

```
predict residualsDiscip0, r
*****
```

```
*CREATING RESIDUAL FOR GANGS.
```

```
logistic Gang streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend urbanL
southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations
Lackeducatpart Lackreligion LackFamSup Disciplinary, cformat(%9.3f)
```

*This formula predicts the residual measure for Gangs that will be utilized in the interaction.

```
predict residualsGang0, r
*****
```

```
*CREATION OF INTERACTION TERMS.
```

```
*****INTERACTION TERMS*****
```

```
. gen streetcode_LEducation = ( residualsStreetCode0 * residualsLackEdu0 )
. gen streetcode_LReligion = ( residualsStreetCode0 * residualsLackrelig0)
. gen streetcode_LFamily = ( residualsStreetCode0 * residualsLackfami0)
. gen streetcode_Discipline = ( residualsStreetCode0 * residualsDiscip0)
. gen streetcode_Ganginvol = ( residualsStreetCode0 * residualsGang0)
```

```
*****
```

***TABLE 3 - MODEL 1.

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES
 pviolentoffend urbanL southL violentconvi Drugs Super_convicti other_convict
 months_incarl pincarcerations Lackeducatpart Lackreligion LackFamSup Disciplinary Gang
 streetcode_LEducation, dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -378.16204
 Iteration 1: log likelihood = -354.23017
 Iteration 2: log likelihood = -353.94537
 Iteration 3: log likelihood = -353.94494
 Iteration 4: log likelihood = -353.94494

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -358.26703 (not concave)
 Iteration 1: log likelihood = -331.10568
 Iteration 2: log likelihood = -309.16643
 Iteration 3: log likelihood = -308.657
 Iteration 4: log likelihood = -308.65257
 Iteration 5: log likelihood = -308.65257

Negative binomial regression		Number of obs	=	219
		LR chi2(20)	=	156.41
Dispersion = mean		Prob > chi2	=	0.0000
Log likelihood = -308.65257		Pseudo R2	=	0.2022

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.131	0.030	4.41	0.000	0.073	0.189
ndisavantaged	0.097	0.029	3.33	0.001	0.040	0.154
FamSES	0.022	0.030	0.74	0.460	-0.036	0.080
Fam_Structure	0.249	0.233	1.07	0.286	-0.208	0.706
MALES	0.558	0.236	2.36	0.018	0.095	1.022
pviolentoffend	0.801	0.224	3.58	0.000	0.362	1.239
urbanL	-0.330	0.213	-1.55	0.120	-0.747	0.086
southL	-0.082	0.223	-0.37	0.714	-0.518	0.355
violentconvi	0.611	0.322	1.90	0.058	-0.020	1.241
Drugs	0.139	0.264	0.53	0.599	-0.379	0.657
Super_convicti	-0.289	0.263	-1.10	0.271	-0.804	0.226
other_convict	-0.286	0.354	-0.81	0.420	-0.981	0.408
months_incarl	0.079	0.026	3.02	0.003	0.028	0.130
pincarcerations	0.593	0.232	2.55	0.011	0.138	1.048
Lackeducatpart	-0.121	0.063	-1.94	0.053	-0.244	0.001
Lackreligion	0.106	0.080	1.33	0.182	-0.050	0.262
LackFamSup	0.103	0.045	2.27	0.023	0.014	0.192
Disciplinary	0.615	0.257	2.40	0.017	0.112	1.119
Gang	1.570	0.277	5.66	0.000	1.027	2.113
streetcode_LEducation	0.034	0.020	1.71	0.086	-0.005	0.072
_cons	-6.829	1.136	-6.01	0.000	-9.055	-4.604
/lnalpha	-0.173	0.229			-0.622	0.275
alpha	0.841	0.192			0.537	1.317

LR test of alpha=0: chibar2(01) = 90.58 Prob >= chibar2 = 0.000

***TABLE 3 - MODEL 2.

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend
 urbanL southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations
 Lackeducatpart Lackreligion LackFamSup Disciplinary Gang streetcode_LReligion,
 dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -376.32705
 Iteration 1: log likelihood = -351.05525
 Iteration 2: log likelihood = -350.76458
 Iteration 3: log likelihood = -350.76421
 Iteration 4: log likelihood = -350.76421

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -358.12431 (not concave)
 Iteration 1: log likelihood = -330.55928
 Iteration 2: log likelihood = -310.29544
 Iteration 3: log likelihood = -309.79986
 Iteration 4: log likelihood = -309.79661
 Iteration 5: log likelihood = -309.79661

Negative binomial regression
 Dispersion = mean
 Log likelihood = -309.79661

Number of obs	=	219
LR chi2(20)	=	154.12
Prob > chi2	=	0.0000
Pseudo R2	=	0.1992

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.124	0.029	4.28	0.000	0.067	0.181
ndisavantaged	0.104	0.028	3.71	0.000	0.049	0.159
FamSES	0.024	0.029	0.82	0.411	-0.033	0.081
Fam_Structure	0.298	0.225	1.32	0.186	-0.143	0.739
MALES	0.614	0.235	2.61	0.009	0.154	1.075
pviolentoffend	0.721	0.211	3.42	0.001	0.308	1.134
urbanL	-0.320	0.209	-1.53	0.126	-0.729	0.090
southL	-0.086	0.216	-0.40	0.689	-0.510	0.337
violentconvi	0.667	0.314	2.12	0.034	0.051	1.283
Drugs	0.150	0.256	0.59	0.558	-0.352	0.652
Super_convicti	-0.285	0.257	-1.11	0.268	-0.788	0.219
other_convict	-0.278	0.345	-0.80	0.421	-0.954	0.399
months_incarl	0.066	0.025	2.63	0.008	0.017	0.116
pincarcerations	0.499	0.224	2.23	0.026	0.060	0.939
Lackeducatpart	-0.084	0.058	-1.45	0.147	-0.197	0.029
Lackreligion	0.099	0.078	1.27	0.205	-0.054	0.252
LackFamSup	0.076	0.046	1.66	0.096	-0.014	0.166
Disciplinary	0.620	0.252	2.46	0.014	0.125	1.114
Gang	1.422	0.252	5.64	0.000	0.928	1.916
streetcode_LReligion	-0.022	0.025	-0.89	0.373	-0.071	0.027
_cons	-6.723	1.111	-6.05	0.000	-8.900	-4.546
/lnalpha	-0.240	0.240			-0.710	0.230
alpha	0.787	0.189			0.492	1.258

LR test of alpha=0: chibar2(01) = 81.94 Prob >= chibar2 = 0.000

***TABLE 3 - MODEL 3.

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend urbanL
 southL violentconvi Drugs Super_convicti other_convict months_incar1 pincarcerations Lackeducatpart
 Lackreligion LackFamSup Disciplinary Gang streetcode_LFamily, dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -381.06212
 Iteration 1: log likelihood = -353.8877
 Iteration 2: log likelihood = -353.52145
 Iteration 3: log likelihood = -353.52124
 Iteration 4: log likelihood = -353.52124

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -358.35233 (not concave)
 Iteration 1: log likelihood = -329.97078
 Iteration 2: log likelihood = -329.46697 (not concave)
 Iteration 3: log likelihood = -314.43548
 Iteration 4: log likelihood = -310.2399
 Iteration 5: log likelihood = -310.08962
 Iteration 6: log likelihood = -310.08825
 Iteration 7: log likelihood = -310.08825

Negative binomial regression

	Number of obs	=	219
	LR chi2(20)	=	153.54
Dispersion = mean	Prob > chi2	=	0.0000
Log likelihood = -310.08825	Pseudo R2	=	0.1984

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.125	0.029	4.27	0.000	0.068	0.183
ndisavantaged	0.104	0.029	3.60	0.000	0.048	0.161
FamSES	0.021	0.029	0.71	0.477	-0.037	0.078
Fam_Structure	0.295	0.227	1.30	0.194	-0.150	0.740
MALES	0.593	0.235	2.52	0.012	0.133	1.053
pviolentoffend	0.712	0.212	3.36	0.001	0.297	1.127
urbanL	-0.343	0.209	-1.64	0.100	-0.752	0.066
southL	-0.086	0.218	-0.39	0.694	-0.513	0.341
violentconvi	0.655	0.316	2.07	0.038	0.036	1.274
Drugs	0.158	0.260	0.61	0.545	-0.353	0.668
Super_convicti	-0.262	0.258	-1.02	0.309	-0.767	0.243
other_convict	-0.281	0.348	-0.81	0.420	-0.963	0.401
months_incar1	0.070	0.025	2.80	0.005	0.021	0.119
pincarcerations	0.550	0.229	2.40	0.016	0.102	0.999
Lackeducatpart	-0.084	0.059	-1.42	0.154	-0.199	0.031
Lackreligion	0.097	0.081	1.20	0.228	-0.061	0.255
LackFamSup	0.084	0.045	1.85	0.064	-0.005	0.172
Disciplinary	0.628	0.255	2.46	0.014	0.127	1.128
Gang	1.415	0.256	5.52	0.000	0.913	1.917
streetcode_LFamily	0.006	0.014	0.47	0.640	-0.020	0.033
_cons	-6.760	1.119	-6.04	0.000	-8.954	-4.566
/lnalpha	-0.216	0.236			-0.678	0.246
alpha	0.806	0.190			0.508	1.278

LR test of alpha=0: chibar2(01) = 86.87 Prob >= chibar2 = 0.000

***TABLE 3 - MODEL 4.

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend
 urbanL southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations
 Lackeducapart Lackreligion LackFamSup Disciplinary Gang streetcode_Discipline,
 dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -378.64357
 Iteration 1: log likelihood = -353.51026
 Iteration 2: log likelihood = -353.19149
 Iteration 3: log likelihood = -353.19095
 Iteration 4: log likelihood = -353.19095

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -358.08305 (not concave)
 Iteration 1: log likelihood = -330.34957
 Iteration 2: log likelihood = -309.68232
 Iteration 3: log likelihood = -309.2161
 Iteration 4: log likelihood = -309.21319
 Iteration 5: log likelihood = -309.21319

Negative binomial regression
 Dispersion = mean
 Log likelihood = -309.21319

Number of obs	=	219
LR chi2(20)	=	155.29
Prob > chi2	=	0.0000
Pseudo R2	=	0.2007

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.119	0.029	4.08	0.000	0.062	0.177
ndisavantaged	0.107	0.028	3.85	0.000	0.053	0.162
FamSES	0.008	0.031	0.27	0.787	-0.052	0.068
Fam_Structure	0.379	0.232	1.63	0.103	-0.076	0.834
MALES	0.541	0.233	2.32	0.020	0.084	0.998
pviolentoffend	0.772	0.215	3.58	0.000	0.349	1.194
urbanL	-0.384	0.209	-1.84	0.065	-0.793	0.025
southL	-0.113	0.218	-0.52	0.603	-0.540	0.314
violentconvi	0.637	0.312	2.04	0.042	0.025	1.249
Drugs	0.202	0.261	0.77	0.439	-0.310	0.714
Super_convicti	-0.165	0.263	-0.63	0.532	-0.681	0.351
other_convict	-0.237	0.347	-0.68	0.495	-0.916	0.443
months_incarl	0.072	0.025	2.89	0.004	0.023	0.121
pincarcerations	0.477	0.224	2.13	0.033	0.038	0.915
Lackeducapart	-0.100	0.058	-1.72	0.085	-0.215	0.014
Lackreligion	0.082	0.076	1.08	0.282	-0.067	0.231
LackFamSup	0.105	0.045	2.33	0.020	0.017	0.192
Disciplinary	0.478	0.269	1.77	0.076	-0.050	1.005
Gang	1.435	0.252	5.70	0.000	0.941	1.929
streetcode_Discipline	0.049	0.036	1.38	0.166	-0.021	0.119
_cons	-6.514	1.114	-5.85	0.000	-8.698	-4.330
/lnalpha	-0.243	0.237			-0.707	0.222
alpha	0.785	0.186			0.493	1.248

LR test of alpha=0: chibar2(01) = 87.96 Prob >= chibar2 = 0.000

***TABLE 3 - MODEL 5.

nbreg prisonviolenceDV streetcodeIV ndisavantaged FamSES Fam_Structure MALES pviolentoffend
 urbanL southL violentconvi Drugs Super_convicti other_convict months_incarl pincarcerations
 Lackeducatpart Lackreligion LackFamSup Disciplinary Gang streetcode_Ganginvol,
 dispersion(mean) cformat(%9.3f)

Fitting Poisson model:

Iteration 0: log likelihood = -372.1921
 Iteration 1: log likelihood = -348.3949
 Iteration 2: log likelihood = -348.15242
 Iteration 3: log likelihood = -348.15216
 Iteration 4: log likelihood = -348.15216

Fitting constant-only model:

Iteration 0: log likelihood = -429.63958
 Iteration 1: log likelihood = -389.17167
 Iteration 2: log likelihood = -386.86183
 Iteration 3: log likelihood = -386.85755
 Iteration 4: log likelihood = -386.85755

Fitting full model:

Iteration 0: log likelihood = -357.38738 (not concave)
 Iteration 1: log likelihood = -327.37818
 Iteration 2: log likelihood = -305.33739
 Iteration 3: log likelihood = -304.97141
 Iteration 4: log likelihood = -304.97007
 Iteration 5: log likelihood = -304.97007

Negative binomial regression

Number of obs = 219
 LR chi2(20) = 163.77
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.2117

Dispersion = mean

Log likelihood = -304.97007

prisonviolenceDV	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
streetcodeIV	0.157	0.031	5.12	0.000	0.097	0.217
ndisavantaged	0.102	0.028	3.67	0.000	0.047	0.156
FamSES	0.007	0.029	0.24	0.807	-0.050	0.064
Fam_Structure	0.372	0.224	1.66	0.098	-0.068	0.812
MALES	0.541	0.228	2.37	0.018	0.094	0.987
pviolentoffend	0.784	0.206	3.81	0.000	0.381	1.188
urbanL	-0.383	0.203	-1.89	0.059	-0.781	0.015
southL	-0.137	0.213	-0.64	0.520	-0.554	0.280
violentconvi	0.675	0.302	2.24	0.025	0.084	1.266
Drugs	0.045	0.260	0.17	0.864	-0.464	0.553
Super_convicti	-0.163	0.252	-0.64	0.519	-0.658	0.332
other_convict	-0.130	0.335	-0.39	0.699	-0.787	0.527
months_incarl	0.077	0.025	3.07	0.002	0.028	0.126
pincarcerations	0.612	0.221	2.77	0.006	0.179	1.045
Lackeducatpart	-0.067	0.056	-1.19	0.236	-0.177	0.044
Lackreligion	0.080	0.075	1.06	0.287	-0.067	0.227
LackFamSup	0.060	0.044	1.37	0.170	-0.026	0.146
Disciplinary	0.568	0.246	2.31	0.021	0.086	1.051
Gang	1.327	0.245	5.42	0.000	0.847	1.807
streetcode_Ganginvol	0.127	0.040	3.17	0.001	0.049	0.205
_cons	-7.032	1.128	-6.23	0.000	-9.243	-4.821
/lnalpha	-0.321	0.236			-0.784	0.142
alpha	0.725	0.171			0.456	1.152

LR test of alpha=0: chibar2(01) = 86.36
 Prob >= chibar2 = 0.000

Prob >= chibar2 = 0.000